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#187

To: Charle Fitzgerald, US DOE NN-42
From: Ken Ames, DOE Onsite Monitor
Date: Wednesday, January 10, 1996

US Spent Fuel Team

(711)

01/11/96 10:23 202 586 2323
'96-01-11 19:01 PYONGYANG-KOREA

RA Libby
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T-603 P.01
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TRANSFER FOR DIRECT REPLY - DOE

US Spent Fuel Team

CHIRON

To: Cherie Fitzgerald, US DOE NN-42
From: Ken Ames, DOE Onsite Monitor
Date: Thursday, January 11, 1996 (2p.)

When we arrived at the site this morning, our new made-in-DPRK heaters were waiting for us. George Pannell got them operating and the transformation in the office is marvelous. We're up to about 60°F and it feels great! Tomorrow we will receive kerosene and fire up one of the big heaters to provide some warmth in the area where the settling tank is being assembled.

The main activities today were unpacking and organizing. The settling tank panels were uncrated and the sawhorses that will be used for assembling the tank were put together. One side of the tank is already laid out and assembly has begun. I was given the job of tidying the storage room, which had gotten rather jumbled.

We asked today about upcoming holidays and were informed that there will be no work at the site Friday, February 16 through Monday, February 19 because a national holiday and the lunar new year occur back-to-back. Wednesday, January 31 may also be a holiday since it is the day of the local festival. The days before and after February 19 may be very difficult for traveling through Beijing because of the big celebration of the Chinese new year.

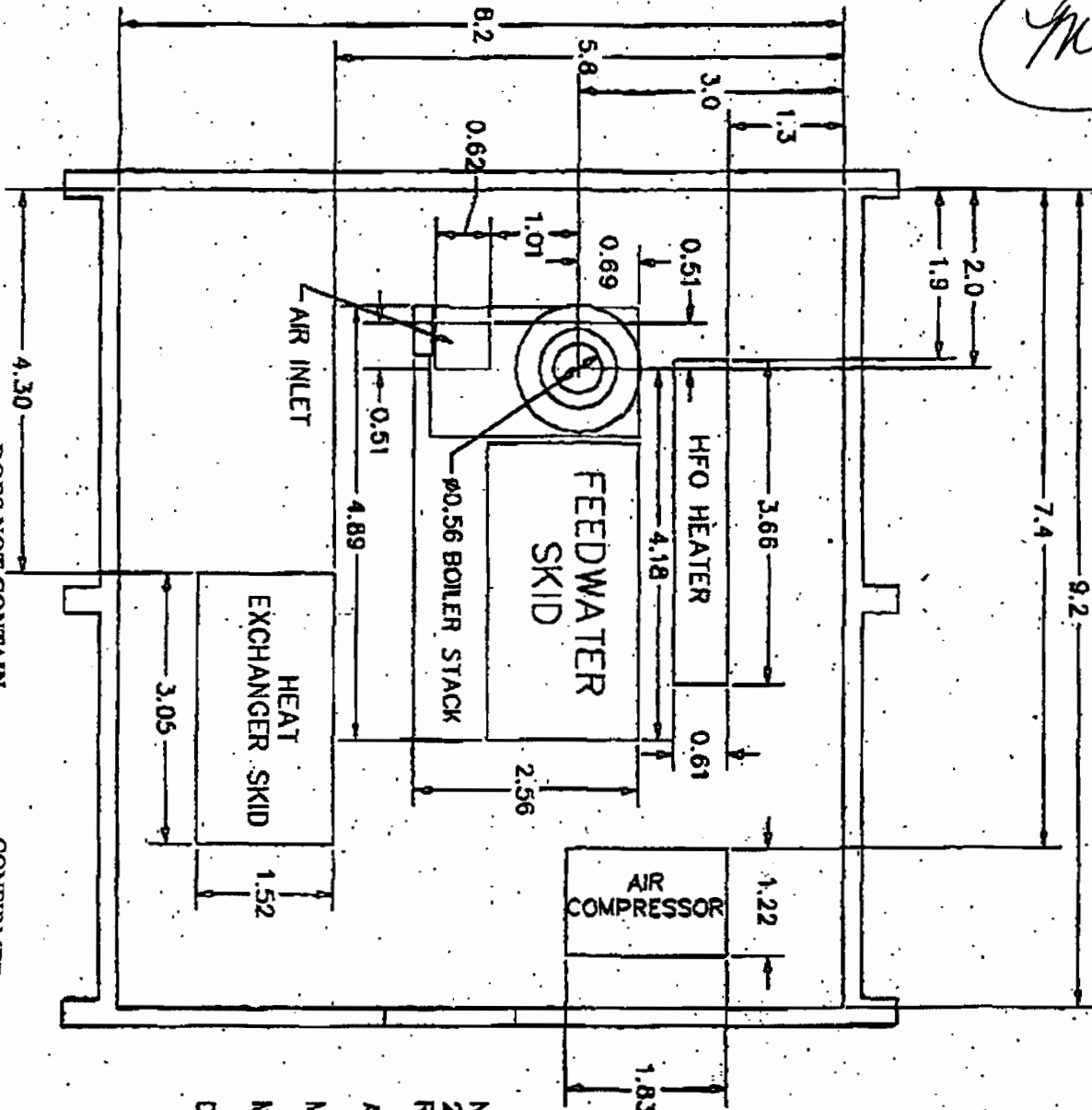
The current schedule has Tom Grim arriving in Pyongyang on the 17th. I'm checking to see if the flight will be available that day. Since Friday, the 16th, is a big DPRK holiday (the birthday of Kim Il Sung), the DPRK embassy in Beijing may be closed, making it impossible to get a visa. We need to anticipate the

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01/15/96 09:50 202 586 2323
 '96-01-12 19:12 PYONGYANG-KOREA

RA Libby
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 TRANSFER FOR DIRECT REPLY - DOE

To: Cherie Fitzgerald, US DOE NN-42
 From: Ken Ames, DOE Onsite Monitor
 Date: Friday, January 12, 1996

US Spent Fuel Team

CHRON

We are making good progress on all fronts. The assembly of the settling tank will take a little longer than planned because some of the holes on the backing strips don't line up with the holes in the side plates. Our drills don't have enough torque to enlarge them so we'll have to use the welder to burn them out. Jim thinks this problem may delay our schedule a little, but the guys will do their best to overcome this problem quickly. We had heat from one of the big kerosene heaters in the work area for part of the afternoon and Mike said it helped to cut some of the bite from the cold steel.

We also fired up one of the small kerosene heaters to see how it worked, but don't need it in the office or the lab. Both are quite comfortable now with the DPRK-supplied electric heaters.

By tomorrow we will finish manifolding all four generators and the air compressor to one large diesel tank as requested by the Chief Engineer.

We had a lengthy discussion of the draft record of meeting about the removal of the CenTec sludge vacuuming system and agreed on some rewording to make it clearer. We have done nothing to prevent the use of some or all of the system components in a cesium-removal mode. If it decided to present that option to the Chief Engineer, there is still time to work up a good proposal.

Per my phone conversation with Dick Libby today, I will plan to leave the site on Friday, the 26th and return to the U.S. on Saturday, the 27th. I have requested extension of my visa and site pass accordingly.

On Monday, the 15th, Ken Yates and I will go to Pyongyang after the morning meeting to meet with Ake Lovquist of the Swedish Embassy. We will also try to visit Mr. Ian Watson at the bank and see what we can learn from him. We will return to the site by the end of the workday.

I will plan to call Tom Grim at home about 2pm Sunday, our time, which will be about 9pm Saturday, California time. I am interested in finding out the latest news on boiler shipment. Scores from Saturday's NFL games would also be of interest.

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 DATE: 12-9-2001
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U.S. spent fuel team (DOE) weekly summaries

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To: Cherle Fitzgerald, US DOE NN-42
From: Ken Ames, DOE Onsite Monitor
Date: Saturday, January 13, 1996

US Spent Fuel Team

CHRON
We are continuing to make good progress on all fronts. Don Acker, Jeff Pope, and Mike Miles are enlarging holes on the settling tank and moving the baffle plates to the first side plate. We have lost some time because of the misaligned holes but are hoping to make it up by cleaning the pool faster than

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202 586 2323
TEL:850-2-814423

RA Libby

15 Jan 96 19:53 No.004 P.01

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'96-01-17 18:57

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TRANSFER FOR DIRECT REPLY - DOE

To: Cherie Fitzgerald, US DOE NN-42
From: Ken Ames, DOE Onsite Monitor
Date: Wednesday, January 17, 1996

US Spent Fuel Team

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01/18/96 08:20 202 586 2323
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RA Libby
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TRANSFER FOR DIRECT REPLY - DOE

To: Cherie Fitzgerald, US DOE NN-42
From: Ken Ames, DOE Onsite Monitor
Date: Thursday, January 18, 1996

US Spent Fuel Team

CHRON

1/17/96 informed the Chief Engineer that the spent fuel team

#95

US Spent Fuel Team

M19

To: Charlie Fitzgerald, US DOE NN-42
 From: Ken Ames, DOE Onsite Monitor
 Date: Friday, January 19, 1996

Sludge vacuuming has resumed! The system was ready to start before noon and was run very briefly. Because of the pulsating flow delivered by the Sandpiper® pump, the water coming into the settling tank was creating an unacceptable amount of splashing. Thus, the first job in the afternoon was to rig a splash shield on the top of the tank. For this, Don and Mike used a piece of plywood wrapped in Herculite®. Sludge vacuuming resumed before 3 PM and progress was very good. At first, visibility was a problem because of the glare of sunlight through the windows, but progress was rapid in spite of that. I was pleased to note that water clarity remained good while we were vacuuming, indicating that the sludge was being sucked in as fast as it was being disturbed.

Mid-afternoon we were shut down for awhile because a splice in the air hose supplying the pump let go, but we resumed operation and got quite a large area vacuumed. Having seen both sludge vacuuming systems in operation, it is my opinion that this one cleans 2-4 times faster. Late in the afternoon, the system developed a blockage, but by that time the Chief Engineer ordered the sludge vacuuming to stop because one of the valves on the bottom of the settling tank was not completely shut. Shutting it will require moving one stack of fuel baskets, but we had decided to go ahead because there was no visible increase in turbidity, indicating that the settling tank is working well.

Tomorrow morning fuel will be moved, the valve will be closed, and the filter unit will be installed. Before vacuuming can resume, we must also clear the blockage in the suction line. The most probable cause is that the strainer is full, which is no surprise since we vacuumed an area of 5-7 square meters today. I would estimate that we were vacuuming at a rate of 3-4 square meters per hour while the system was operating.

Last night the CenTec diesel generator shut down, apparently because the fuel got too thick to flow. Because of this, we have decided to run one CenTec and one NAC generator 24 hours a day, hoping that we won't have trouble with cold fuel at night. But with no insulation and no heat for the big diesel tank, we could still have trouble if the temperatures go much lower than the roughly -10°C we've been seeing at night. Accordingly, I asked Tom to contact the team coming in next week to ask them to bring along some heat tapes for the fuel lines, the fuel filters, and the fuel tank. I also asked for a couple for the makeup water skid.

Per my conversation with Tom, I checked the spare fiberglass ion exchange column which looks identical to those on the makeup skid. It is full and is marked with 'MB' and the date '9/21'. I didn't get the filter housing checked today, but will do it tomorrow.

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T. Sieler

DR DATE: 1/29/2009

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U.S. spent fuel team (DOE) weekly summaries

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CHRON

T-641 P. 01

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TRANSFER FOR DIRECT REPLY - DOE

To: Cherie Fitzgerald, US DOE NN-42
From: Ken Ames, DOE Onsite Monitor
Date: Saturday, January 20, 1996

US Spent Fuel Team

Today was a mixed bag. First the DPRK operators misunderstood which fuel baskets were blocking the closing of the settling tank valve and moved the wrong stack.

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202 586 2323
TEL: 850-2-814423

DOE - NN-42

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002/002 ✓

23 Jan 96 18:32 No.003 P.01

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#98

(M81)

To: Charlie Fitzgerald, US DOE NN-42
From: Ken Amas, DOE Onsite Monitor
Date: Tuesday, January 23, 1996

US Spent Fuel Team

This morning we got started on our preparations for vacuuming tomorrow. Between Jeff, George, and Don we came with an idea that should work very well. We'll use one of the cartridge filters used in the CenTec main filter housings and connect it with a Camloc® fitting to the end of the suction hose from the 260 hanging in the settling tank. This way the water which gets to the 260 will be filtered once before it gets to the 260's cartridge filters. And we'll be able to change the filter on the end of the hose easily even if visibility is poor.

Don and Mike installed the second 260 unit in pool #2 and Jeff prepared a Herculite® curtain to suspend in the opening between pool #1 and pool #2. Jeff, Mike, and Don installed it and it seemed to make a difference. During the day there was a noticeable improvement in water clarity in pool #1, but pool #2 was still too murky to allow us to change the filters on the 1st 260 unit. Tomorrow we think there'll be enough visibility that we can vacuum effectively and clear a large area. But we'll need to change the filters in the first 260 unit so that it'll pull enough gpm to depress the water level in the settling tank.

The CenTec water treatment system was shut down for part of the day to change prefilters. The site operators performed the change with supervision by Bob Flournoy.

The diesel operating supplies were inventoried. Here's what we have:

qty	units	description	part #	manufacturer
9	ea	Fuel Filter	224975	Kohler
8	ea	Fuel Filter	595-5	Goldenrod
20	ea	Fuel Filter	RE62418	John Deere
19	ea	Oil Filter	T19044	John Deere
44	ea	Oil Filter	223604	Kohler
11	gal	Antifreeze/Coolant		Prestone
10	gal	Antifreeze/Coolant		Peak
20	gal	Diesel Fuel Conditioner	TY22056	Stanadyne
95	gal	Motor Oil SAE 30	AR63222	John Deere
34	ea	Air Filter	AF-1913	Fleetguard

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U.S. spent fuel team (DOE) Weekly Summaries

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To: Cherie Fitzgerald, US DOE NN-42
From: Keri Ames, DOE Onsite Monitor
Date: Wednesday, January 24, 1996

US Spent Fuel Term
CHRON

7182

Today was a big day, but it was not without challenges. We arrived planning to suck sludge from morning until dark. But even with the 260 sucking 160 gpm out of the settling tank, the level in the first chamber was above pool level. The Chief Engineer was there watching and shut us down after we'd vacuumed roughly 4 square meters. I made the case as clearly as I could that even if some water leaks out of the settling tank, we're going to collect the sludge entrained in it with the 260 and with the CenTec water treatment system. I proposed to the Chief Engineer that we continue to vacuum and stop if we lost sight of the tops of the fuel baskets in pool #2, something we had just gained overnight. But he refused to accept my reasoning, saying that unless the settling tank works as planned with the serpentine up-and-down flow path, we haven't delivered what we proposed and he agreed to.

What had to do is to make holes or slots near the tops of the bottom-up baffles so that water can flow over the tops of them as originally planned. In this way, we allow the water level in the settling tank to be the same in all three chambers and most of the flow from one chamber to the next will be through the holes near the tops of the baffles instead of through leaks around the baffles. This will increase

#100

M83

U.S. Spent Fuel Team, Thursday 1/25/86 CHRON

To: Cherie Fitzgerald, U.S. Department of Energy, NN-42
Fax: 1-202-586-2323 Phone: 1-202-586-8525
From: Dick Libby, DOE On-Site Monitor
Fax: 850-2-381-2473 Phone: 850-2-381-4423

During our meeting with Chief Engineer 1.1 we discussed the following daily action items:
1) Changing the outflow filter cartridges on the 1st 260 cartridge filter unit, 2) vacuuming as much as possible with filter changeouts as required, 3) continuing to assemble canning equipment, and 4) a photographic record of the work being performed. The Chief Engineer agreed with the above activities, however he again emphasized the importance of the water level in the settling tank. He was not pleased that the water level late yesterday was higher than the pool water level (not in conformance with our agreement to maintain lower levels in the tank by pumping out more water with a Tri-Nuclear 260 unit than is pumped into the tank by the Sandpiper pump). We agreed to ensure that at all times a negative water level would be maintained. He was also concerned with contamination being spread from the settling tank and Sandpiper pump area. A major concern was that contamination could be spread outside when the large kerosene heaters were refueled. We agreed that these units would not be removed from the spent fuel building for refueling (even with monitoring). Instead, the units, when empty, will be moved to the south door and fuel carried to the unit in 5-gallon containers with refueling through the open door. A safety concern is the non-operational safety shower. The DPRK has agreed to fix the safety shower, and work on this was performed today.

During the day another large fraction of the pool was vacuumed before water clarity deteriorated. A section about 5 feet wide and the width of the pool remains to be done. The sludge vacuumed today and yesterday is much deeper than that seen earlier. Depths were estimated to be between 6 and 8 inches. A very large quantity of sludge is being removed from the pool floor. A fit-up check of the 30-gallon sludge dewatering system was completed successfully.

We are now discussing next steps. We are considering installation of the fuel canning platforms, next. A test assembly and lift of a platform was completed today. The lift of the underwater structure and extension components (including the cleaning brush drive shaft and hot water pipe) went very well. This tall structure was balanced on the hook and sufficient height was obtained to easily clear the pool wall. Assembly of these components out of the water will speed up the installation process.

We have not heard anything about fuel rack modifications. Please check on the status of this. Doug has been looking for the DOS logbook and can only locate the new information compiled by Yates. Please check with Yates on this book's location.

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DOE OFFICE OF CLASSIFICATION 45-93
DR DATE: 12-22-01
T. Sieler

U.S. Spent Fuel Team (DOE) weekly summaries

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CHRON

U.S. Spent Fuel Team, Friday 1/26/96

To: Cherie Fitzgerald, U.S. Department of Energy, NN-42

Fax: 1-202-586-2323

Phone: 1-202-586-8525

From: Dick Libby, DOE On-Site Monitor

Fax: 850-2-381-2473

Phone: 850-2-381-4423

During our meeting with Chief Engineer Li we discussed the following daily action items: 1) vacuuming as much as possible with filter changeouts as required if water clarity was sufficient, 2) moving the first canning station underwater equipment to the west end of pool 1 and continuing to assemble the canning equipment, and 3) moving the CenTec skid to another location in the pool so that vacuuming, canning station assembly, and rack installation could proceed. We agreed to let the Chief Engineer know if we would vacuum and we postponed discussion of the CenTec skid move until 2:00 in the afternoon. After assessing the situation in the pool, it was decided that water clarity was not sufficient to proceed with vacuuming. The first canning station was moved to the west end and most assembly was completed.

At 11:00 three team members left for P'yongyang and prepared to leave the country on Saturday (Ken Amos, Don Acker, and Mike Miles). Team members remaining include Bob Flournoy, George Pannell, Neal Bonadies, Butch Hamilton, Jeff Pope, Doug Morris, and myself. We understand that Tom Shelton and Bill Potter are scheduled to arrive tomorrow. We do not know the status of Potter but do not expect him. We have George Jackson and Tom Grim scheduled for arrival on 2/3/96 and Jim Viebrock on the 6th. Information on any changes would be appreciated.

Just after noon I had a chance meeting with the IAEA delegation in the hallway of the spent fuel building. They had just completed a meeting with Chief Engineer Li and they indicated that the IAEA had requested through U.S. Mission, Vienna that modifications be made to the racks. They indicated that the Chief Engineer expects us to present this to him when the official request is received by us here at the site. Please forward the official request as soon as possible so we can meet with the Chief Engineer on this subject.

The team discussed the design and the installation of the debris cleaning manifold box. To ease installation, the hoses from the bottom of the cleaning station funnel will be made long enough (about 40') so that the manifold connecting the four stations can be assembled above water. The cover tightening nuts will be modified with a handle so that it will be possible to open the cover under water as a back-up clean-out procedure. The screen inside the box will be removed (this function will now be performed by the Tri-Nuclear strainer basket). It will be much easier to clean debris out of the strainer basket than out of the manifold box in the event of plugging.

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DATE: 1/29/2009

U.S. spent fuel team (DOE) Weekly summaries

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P.1/1 P.1

DICK LIBBY-202-586-2323

M85A

THIS MAP FROM CENTEC
SHOWS COMPLETED AREAS
OF THE WEST POOL. TOM C

TRANSFERRED TO OTHER AGENCY
TRANSFER FOR DIRECT REPLY - DOE

TO: Tom Grim, DOE

FROM: Gordon Galbraith

FAX NO: (510) 422-2832

NUMBER OF PAGES INCLUDING THIS ONE: 2

Map of West fuel pool showing areas that have been vacuumed.
Area numbers indicate the sequence in which the regions were cleaned.

THIS IS CENTEC'S DECEMBER
ESTIMATE OF CLEAN-UP. IN
CONFLICT W OTHER OPINIONS.

NORTH
↑

NOTE: CANNOT DETERMINE
FROM FAXES EXACTLY
WHERE THIS MAP WAS